Attachment 8

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MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER POLLUTION CONTROL PROGRAM

FORM S - DOMESTIC SLUDGE REPORTING

SECTION 1 - GENERAL INFORMATION

REPORTING PERIOD: (YEAR) 2002

FACILITY NAME: Rockaway Beach W.W.T.P. CITY NAME: City of Rockaway Beach

PERMIT NUMBER: MO-0108162 COUNTY NAME: Taney

Instructions: See Instruction Sheet for directions.

1. Sludge Production, including sludge received from others:

147.1 Actual Dry Tons/Year 600 Actual Population Equivalent

2. Sludge Treatment:

___ Anaerobic Digester	___ Aerobic Digester	___ Composting
X Storage Tank	___ Air or Heat Drying	
___ Lime Stabilization	___ Other, Describe,	

3. Sludge Use or Disposal: Complete the rest of this form only for the sections applicable to your method of sludge and biosolids use or disposal.

X	**All Permitees**	**Complete Section 1**
X	Land Application (LA)	Complete Sections 2 & 3
___	Contract Hauler (CH) > 150 PE	Complete Sections 2 & 4
___	Contract Hauler (CH) < 150 PE	Complete Section 4
___	Hauled to another Treatment Facility (HT)	Complete Section 4
___	Solid Waste Landfill (LF)	Complete Section 4
___	Sludge Disposal Lagoon (SD)	Complete Section 5
___	Incineration (IN)	Complete Section 6
___	Sludge Hauled to Incinerator (IO)	Complete Section 6

4. Certification: I certify under penalty of law that the information contained in this report and attachments are true and correct. This determination has been made under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information used to determine these requirements have been met. I am aware that there are significant penalties for false certification, including the possibility of fine and imprisonment.

Edwin K. Godley (Print Name) Plant operator (Official Title)

Edwin K. Godley (Signature) Apr 23 2003 (Date) 417-561-4424 (Phone)

(RV 7-1-97)

FORM S - SECTION 2 LABORATORY RESULTS

FORM SA

SLUDGE MONITORING RESULTS FOR METALS, NUTRIENTS, PATHOGENS AND VECTORS

Permit No: MO- 0108162 Report Period: Calendar Year 2002

Facility Name: Rockaway Beach W.W.T.P.

Use this form to report sludge monitoring required under Missouri water pollution control permit (NPDES) Standard Conditions Part III dated 15, August, 1994. For a copy, contact the department at (314) 751-6825.

If the Facility has a design population equivalent (P.E.) of 150 or less, treat the sludge generated as septage and consequently, no testing is required. See WQ 422 guide, Land application of Septage, for further guidance.

Report all results on dry weight basis.

Attach copies of all laboratory results for the items below.

A. MINIMUM MONITORING LIST FOR ALL PERMITTEES

PARAMETER	UNITS	AVERAGE	MINIMUM	MAXIMUM	NUMBER OF SAMPLES
Total Solids	%	1.63			9
Total Arsenic	mg/kg	<6.1	41	75	9
Total Cadmium	mg/kg	1.23	39	85	9
Total Chromium	mg/kg	16.0	1200	3000	9
Total Copper	mg/kg	157	1500	4300	9
Total Lead	mg/kg	26.4	360	840	9
Total Mercury	mg/kg	<6.1	17	57	9
Total Molybdenum -	mg/kg	7.98	18	75	9
Total Nickel	mg/kg	6.75	420	420	9
Total Selenium	mg/kg	6.14	36	100	9
Total Zinc	mg/kg	1260	2800	7500	9

B. ADDITIONAL MONITORING FOR LAND APPLICATION

Total Kjeldahl Nitrogen	mg/kg				
Total Phosphorus as P	mg/kg				
Total Potassium as K	mg/kg				

If more than 2 dry tons of sludge per acre/year is applied complete following:

Organic nitrogen as N	mg/kg				
Ammonia Nitrogen as N	mg/kg				
Nitrate Nitrogen as N	mg/kg				

C. POLLUTANT LIMITS

POLLUTANT	AV. SAMPLE CONCENTRATIONN mg/kg DRY WGHT	LOW METAL CONCENTRATION mg/kg DRY WGHT	CEILING CONCENTRATION mg/kg DRY WGHT
Arsenic	<.61	41	75
Cadimium	123	39	85
Chromium	16.0	1,200	3,000
Copper	157	1,500	4,300
Lead	26.4	300	840
Mercury	<6.1	17	57
Molybdenum	7.48	18	75
Nickel	6.75	420	420
Selenium	6.14	36	100
Zinc	1260	2,800	7,500

D. PATHOGENS

Pathogen testing is required for all sludges to show operational compliance, including sludges treated by a PSRP approved method.

The geometric mean of the density of fecal coliform is less than 2,000,000 Most Probable Number (MPN) or Colony Forming Units (CFU) per gram of total solids (dry weight basis) for each group of 7 samples:

✓ Yes ___ No Sampling frequency 1 per year

Geometric mean per gram of total solids for each group of 7 samples was:

2,090,000 MPN/CFU Sample date 12/30/02

_____ MPN/CFU Sample date _____

_____ MPN/CFU Sample date _____

E. VECTOR REDUCTION PROCESSES

___ 38 percent volatile solids reduction (attach calculations).

✓ SOUR test, mg O_2/hr/g (attach graph and calculations).

___ Other. Attach explanation.

FORM SB
SLUDGE MONITORING RESULTS FOR
PRIORITY POLLUTANTS AND OTHER SPECIAL TESTING

Permit No: MO-_____ Report Period: Calendar Year _____

Facility Name: _____

Report all results on dry weight basis.

F. PRIORITY POLLUTANTS

Report only those pollutants that were above detection limits. Do not repeat pollutants listed in section 2A. Attach additional sheets as needed.

PARAMETER	UNITS	AVERAGE	MINIMUM	MAXIMUM	NUMBER OF SAMPLES

G. OTHER SPECIAL MONITORING REQUIRED BY PERMIT

Report results of any additional testing required under the Special Conditions section of your permit.

MISSOURI DEPARTMENT OF NATURAL RESOURCES - WATER POLLUTION CONTROL PROGRAM

FORM SC
LAND APPLICATION OF BIOSOLIDS WITH LOW METALS CONCENTRATIONS

Use this form for application sites which have received biosolids with low metals concentrations per Section 3.22 of Form S. Enter the site number for each field based on the site maps on file at the facility. Report biosolids application rate in dry tons per acre per year (dt/ac/yr). Attach additional copies of this sheet as needed.

Permit No: MO- 0108162 Report Period: Calendar Year 2002

Facility Name: Rockaway Beach WWTP.

Site No. 1 Owners Name: Dwight Brockman

Legal: ____1/4, ____1/4, Sec____, T_____, R_____, County__________

Biosolids: ____dt/ac/yr ______Acres Nitrogen: ______ lbs/ac/yr (TKN or PAN)

Crops grown: ______________________ Soil pH __________

Site No. ______ Owners Name: __________

Legal: ____1/4, ____1/4, Sec____, T_____, R_____, County__________

Biosolids: ____dt/ac/yr ______Acres Nitrogen: ______ lbs/ac/yr (TKN or PAN)

Crops grown: ______________________ Soil pH __________

Site No. ______ Owners Name: __________

Legal: ____1/4, ____1/4, Sec____, T_____, R_____, County__________

Biosolids: ____dt/ac/yr ______Acres Nitrogen: ______ lbs/ac/yr (TKN or PAN)

Crops grown: ______________________ Soil pH __________

Site No. ______ Owners Name: __________

Legal: ____1/4, ____1/4, Sec____, T_____, R_____, County__________

Biosolids: ____dt/ac/yr ______Acres Nitrogen: ______ lbs/ac/yr (TKN or PAN)

Crops grown: ______________________ Soil pH __________

Site No. ______ Owners Name: __________

Legal: ____1/4, ____1/4, Sec____, T_____, R_____, County__________

Biosolids: ____dt/ac/yr ______Acres Nitrogen: ______ lbs/ac/yr (TKN or PAN)

Crops grown: ______________________ Soil pH __________

Site No. ______ Owners Name: __________

Legal: ____1/4, ____1/4, Sec____, T_____, R_____, County__________

Biosolids: ____dt/ac/yr ______Acres Nitrogen: ______ lbs/ac/yr (TKN or PAN)

Crops grown: ______________________ Soil pH __________

FORM S - SECTION 3 LAND APPLICATION

Permit No: MO-0108162 Report Period: Calendar Year 2002

Facility Name: Rockaway Beach W.W.T.P.

3.00 Land Application - General

This section is based on Missouri Water Pollution Control Permit Standard Conditions Part III dated August 15, 1994. For a copy, contact the department at (314) 751-6825.

Complete this section if sludge or biosolids were land applied for beneficial use by permittee or by contract hauler under permittee authority.

3.01 14.4 dry tons of sludge applied during the report period.

1.63 average percent solids

If less than 12% solids: _____ total gallons for year

If 12% solids or greater: _____ cubic yards for year.

3.02 Sludge storage provided: 200,000 gallons cubic feet; _____ days of storage.

Number of days each month that sludge was land applied:

Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
3			4				4	7	7	5	2

3.03 Who applies your sludge?

Permittee personnel ✓ Yes ___ No

Contract person ___ Yes ___ No

Other, describe: _____

3.10 Applicability (Per Section H of Part III Standard Conditions)

3.11 Are there any land application sites farther than 20 miles from the wastewater treatment facility? ___ Yes ✓ No

If yes, a separate permit is required for those sites; indicate permit numbers or submit new permit application for each site:

Permit numbers: _____

3.12 Are any industrial sludges land applied by the permittee?

___ Yes ✓ No If yes, complete the following: Permit No: _____;

Type of sludge _____ SIC Code _____;

3.13 Are alternate limits or exceptions listed in the Special Conditions section of the permit?

___ Yes ✓ No If yes, attach explanation sheet.

3.14 Is sludge received from any out-of-state generators?

If this sludge is handled separately, complete separate Sections 2 and 3 of form S for the out-of state sludge.

3.20 Pollutant Limitations

3.21 Are metals within the ceiling concentration limit?

✓ Yes ___ No If no, attach explanation sheet.

3.22 Are metals within the low metals concentrations and the total of all sludge applications to date (including previous years) have not exceeded 500 dry tons/acre?

✓ Yes ___ No Attach list of sites using Form SC.

3.23 If you answered "No" to 3.22, complete the following.

Have metals application rates reached any of the cumulative metals loadings? This is based on contributions from all historical sludge loadings, including industrial sludges.

___ Yes ___ No Attach a list of sites using Form SD.

Soil test results for metals may be used if historical use is not known. Test metals concentration in parts per million (ppm) dry weight for the top six inches of soil and calculate pounds per acre as follows:

ppm (dry wt) in soil x 2 = pounds per acre for 6" soil depth.

3.30 Management Practices

3.31 Nitrogen Limitations

Which of the following nitrogen approaches was used:

Sludge applied up to 2 dry tons/acre/year? ✓ Yes ___ No

Plant Available Nitrogen (PAN) approach? ___ Yes ___ No

_____ number of composite samples. Results for PAN in mg/kg dry weight and pounds per dry ton of sludge (lb/dt) [lb/dt = 0.002 x mg/kg]:

	Average	Minimum	Maximum
PAN	_____mg/kg	_____mg/kg	_____mg/kg
PAN	_____lb/dT	_____lb/dT	_____lb/dT

3.32 Have sludge applications complied with the following management practices as listed in the University of Missouri WQ 426 guide, Best Management Practices for Biosolids Land Application?

1. No discharge of biosolids from application site	✓ Yes	___ No
2. Public contact sites restriction	✓ Yes	___ No
3. Crop restrictions	✓ Yes	___ No
4. Harvest and grazing restictions	✓ Yes	___ No
5. Threatened or endangered species protection	✓ Yes	___ No
6. Nitrogen limitations	✓ Yes	___ No
7. Buffer zones	✓ Yes	___ No
8. Slope limitations for application sites	✓ Yes	___ No
9. Storm water runoff	✓ Yes	___ No
10. Frozen, snow-covered or saturated soil conditions	✓ Yes	___ No

11. Biosolids storage — ✓ Yes ___ No
12. Application rates — ✓ Yes ___ No
13. Application equipment — ✓ Yes ___ No
14. Soil pH limitations — ✓ Yes ___ No
15. Soil phosphorus limitations — ✓ Yes ___ No
16. Soil depth limitations — ✓ Yes ___ No
17. Record keeping — ✓ Yes ___ No

If No, attach sheet with explanation.

3.33 Class A Sludge (Per WQ 424 guide - Biosolids Standards for pathogens and vectors)

Does the sludge meet Class A pathogen reduction? ___ Yes ✓ No

Has Class A sludge been applied to public use sites? ___ Yes ✓ No

If yes to the second question in 3.33, contact DNR.

3.40 Operational Standards for Class B Biosolids (see WQ 424)

___ Class B pathogen reduction requirements were met by either fecal coliform limits under section 2D or a PSRP listed in WQ 424, Table 2. Attach supporting data and indicate process option used.

___ Class B pathogen requirements not currently met; Attach explanation and schedule of compliance.

3.41 Vector Attraction reduction requirements were met. ✓ Yes ___ No

3.50 Monitoring Frequency (Per WQ 424 - Monitoring Requirements for Biosolids Land Application)

Attach a summary of the monitoring results on Form SA

3.51 Sludge testing for metals was performed:

✓ once/year ___ once/6 months

___ once/quarter ___ once/month

___ once/week ___ once/100 dry tons removed from lagoon.

___ Other, specify _____

3.52 Permittee is required to have an approved pretreatment program.

___ Yes ✓ No If yes attach Form SB.

3.53 Total Solids testing was performed at least once per day during land application periods?

✓ Yes ___ No If No, attach explanation.

3.54 Nitrogen testing was performed per the frequency in WQ 423. This frequency is 1 per year.

✓ Yes ___ No If No, attach explanation.

3.55 Total phosphorus and total potassium were tested at the same frequency required for metals as indicated in WQ 423.

✓ Yes ___ No If No, attach explanation.

3.56 Soil testing for pH and Cation Exchange Capacity (CEC) and available phosphorus has been conducted within the last five years.

✓ Yes ___ No If No, attach explanation.

3.57 Was any additional sludge or soil testing required under the special conditions section of your water pollution control (NPDES) permit?

___ Yes ✓ No If yes, attach a summary using Form SB.

Permit No: MO-108162 Report Period: Calendar Year 2002

Facility Name: Rockaway Beach W.W.T.P.

3.60 CERTIFICATION FOR LAND APPLICATION

Check all that apply.

I certify under penalty of law that:

✓ records on testing, and pollutant loadings, as listed above in Section 2, have been kept in accordance with 40 CFR 503.17.

✓ the management practices, as listed above in Section 2, have been met in accordance with 40 CFR 503.14.

✓ the Class B pathogen requirements and the site restrictions, as listed above in Section 2, have been met in accordance with 40 CFR 503.15 and 503.32.

✓ one of the vector attraction requirements, as listed above in Section 2, have been met in accordance with 40 CFR 503.15 and 503.33.

This determination has been made under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information used to determine these requirements have been met. I am aware that there are significant penalties for false certification, including the possibility of fine and imprisonment.

Edwin K. Godley
Name

Edwin K. Godley
Signature

Plant operator
Official Title

Apr. 23, 2003
Date

CaSi
CONSULTING ANALYTICAL SERVICES INTERNATIONAL
2804 EAST BATTLEFIELD, SPRINGFIELD, MISSOURI 65804, 417-882-1017, 1018

CITY OF ROCKAWAY BEACH
CaSi File/Case/Log: 0289/023701-3702/1447.
Samples Received 12-30-02; 11:24.

Values expressed in milligrams per liter, unless otherwise specified.

CONTROL NUMBER		023701	023702	
SAMPLE DESCRIPTION		INFLUENT 12-30-02 09:15	EFFLUENT 12-30-02 09:20	ANALYSIS DATE/TIME
PARAMETER	METHOD			
TOTAL PHOSPHORUS as P	365.2 ❖✚	9.74	0.938	12-30-02 19:45

❖ EPA Methods for Chemical Analysis of Water and Wastes, 1983, Cincinnati, Ohio.
✚ Spectrophotometric.

CaSi
CONSULTING ANALYTICAL SERVICES INTERNATIONAL
2804 EAST BATTLEFIELD, SPRINGFIELD, MISSOURI 65804, 417-882-1017, 1018

CITY OF ROCKAWAY BEACH
CaSi File/Case/Log: 0289/023690-3691/1446.
Samples Received 12-27-02; 11:06.

Values expressed in milligrams per liter, unless otherwise specified.

CONTROL NUMBER		023690	023691	
SAMPLE DESCRIPTION		EFFLUENT 12-27-02 09:00	INFLUENT 12-27-02 09:45	ANALYSIS DATE/TIME
PARAMETER	METHOD			
TOTAL PHOSPHORUS as P	365.2 ❖✚	0.735	8.12	12-30-02 19:45

❖ EPA Methods for Chemical Analysis of Water and Wastes, 1983, Cincinnati, Ohio.
✚ Spectrophotometric.

CaSi CONSULTING ANALYTICAL SERVICES INTERNATIONAL
2804 EAST BATTLEFIELD, SPRINGFIELD, MISSOURI 65804, 417-882-1017, 1018

CITY OF ROCKAWAY BEACH, MISSOURI
Re: CaSi File/Case/Log: 0289/023693-3700/1446,1447.
Sludge Sample Collected 12-30-02; 08:30-09:30,09:40-09:45,09:50,09:55,10:00,10:10,10:15.
Received 12-30-02; 11:24.

PARAMETER	WET WEIGHT VALUE mg/kg	DRY WEIGHT VALUE mg/kg	DRY WEIGHT VALUE lbs/ton
ARSENIC, total	<0.1	<6.1	<0.01
CADMIUM, total	0.02	1.23	0.003
CHROMIUM, total	0.26	16.0	0.03
COPPER, total	2.56	157	0.31
LEAD, total	0.43	26.4	0.05
MERCURY, total	<0.1	<6.1	<0.01
MOLYBDENUM, total	0.13	7.98	0.02
NICKEL, total	0.11	6.75	0.01
SELENIUM, total	0.1	6.14	0.01
ZINC, total	20.6	1260	2.5
TOTAL KJELDAHL NITROGEN	815	50000	100
AMMONIA AS NITROGEN	28.1	1720	3.4
NITRATE/NITRITE AS NITROGEN	6.7	411	0.82
TOTAL PHOSPHORUS AS P	318	19500	39
TOTAL POTASSIUM	119	7300	15
PLANT AVAILABLE NITROGEN	184	11300	23
FECAL COLIFORM Geometric Mean of 7 Samples	34,100	2,090,000	UNITS CFU/g
PERCENT SOLIDS	1.63 %		
VOLATILE PERCENT OF SOLIDS	79.76 %		
PERCENT ASH	0.33 %		

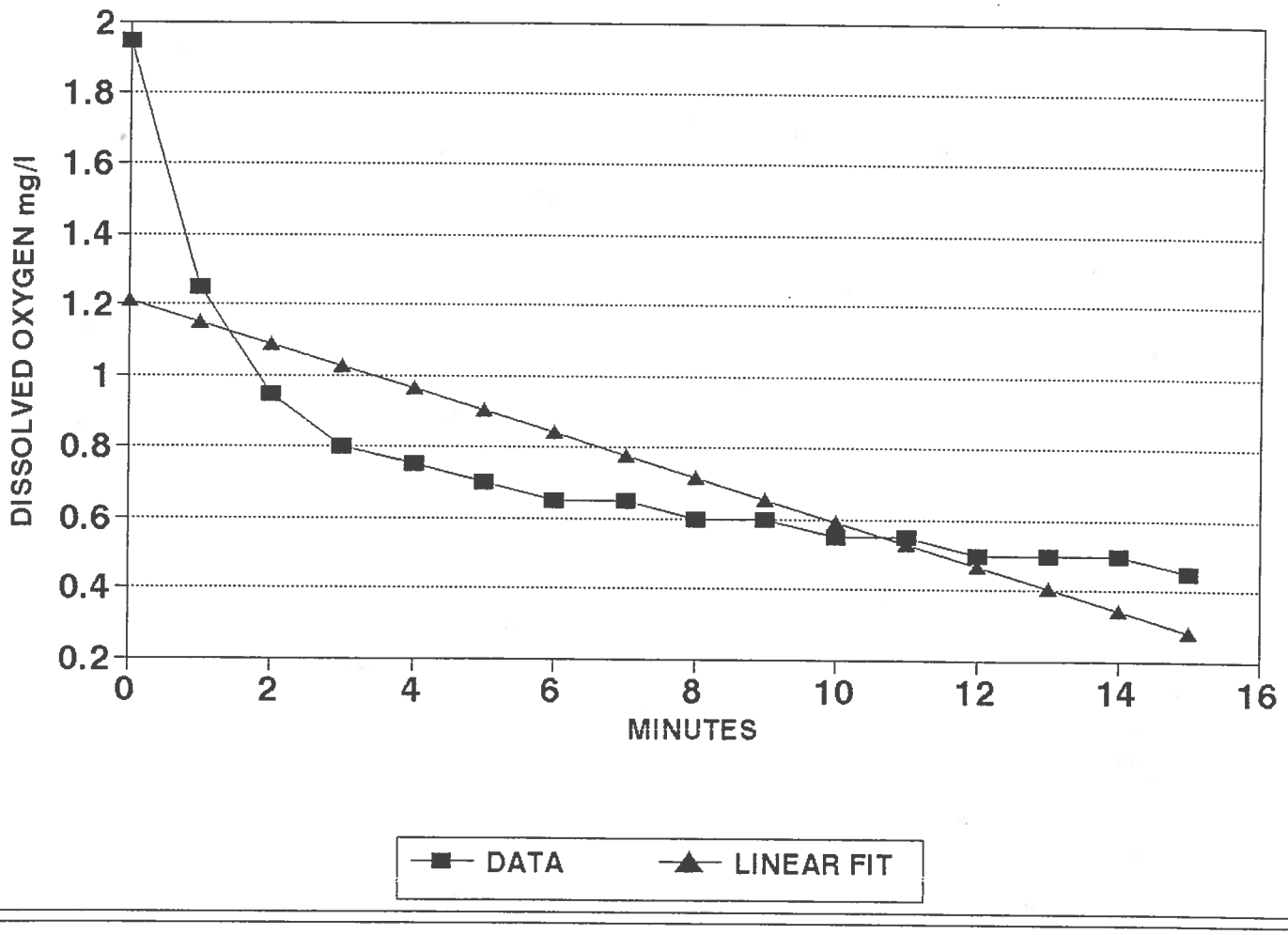
✣ US EPA Test Methods for Evaluating Solid Waste, SW-846, Third Edition 1986, and the Latest Promulgated Update.

CaSi
CONSULTING ANALYTICAL SERVICES INTERNATIONAL
2804 EAST BATTLEFIELD, SPRINGFIELD, MISSOURI 65804, 417-882-1017, 1018

CITY OF ROCKAWAY BEACH, MISSOURI
Re: CaSi File/Case/Log: 0289/023693/1446.
Sludge Sample Collected 12-30-02. Received 12-30-02; 11:24.

SOUR TEST

CITY OF ROCKAWAY BEACH 0289/023693/1446



SPECIFIC OXYGEN CONSUMPTION RATE: 0.30 mg/g/hour

Custom Laboratory, Inc.

P.O. Box 391 Telephone: (417) 537-8337 Golden City, Missouri 64748 204 C Street

Analysis of;
Water
Feeds
Soil
Forage

SAMPLE DATE-NO 11/04/02-48 SAMPLE I.D. SOIL

NAME ..... DWIGHT BROCKMAN NAME ..... TANEY CO SWCD
ADDRESS ... TANEYVILLE MO ADDRESS .... FORSYTH MO

SOIL TEST	RESULTS		RATING
			VERY LOW : LOW : MEDIUM : HIGH : VERY HIGH : EXCESS
CALCIUM	1600	LBS/ACRE	**********
MAGNESIUM	90	LBS/ACRE	******
POTASSIUM	151	LBS/ACRE	**********
PHOSPHORUS (BRAY I)	16	LBS/ACRE	**********
pH	6.01		**********
SOIL TEXTURE	SANDY LOAM		
ORGANIC MATTER	2.05	%	
NEUTRALIZABLE ACIDITY N.A.	1.8	meq/100g	
CATION EXCHANGE CAPACITY (C.E.C.	6.4	meq/100g	
CALCIUM BASE SATURATION	62.7	%	
MAGNESIUM BASE SATURATION	5.9	%	
POTASSIUM BASE SATURATION	3.2	%	

CUSTOM SOIL RECOMMENDATIONS

CROPPING OPTIONS:		Yield Goal	Suggested Annual Treatments lbs/a N	lbs/a P2O5	lbs/a K2O	Corrective Treatment lbs/a E.N.M.	lbs/a ho
COOL SEASON GRASS	ESTABLISHMENT	0/ 0	30	64	12	0	80
OVERSEED LEGUMES INTO GRASS		0/ 0	0	64	12	393	38
CLOVER/GRASS	ESTABLISHMENT	0/ 0	20	64	12	393	38
WARM SEASON GRASS	ESTABLISHMENT	0/ 0	0	41	12	0	80

Under high management, use soluble source of magnesium at a rate of 30 to 40 lbs/ac

This report applies to sample(s) Tested. Samples are retained a Maximum of thirty days after testing.

Custom Laboratory

By _____

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER POLLUTION CONTROL PROGRAM

FORM S - DOMESTIC SLUDGE REPORTING

SECTION 1 - GENERAL INFORMATION

REPORTING PERIOD: (YEAR) 2003

FACILITY NAME: Rockaway Beach W.W.T.P.

CITY NAME: City Of Rockaway B.

PERMIT NUMBER: MO-0105162

COUNTY NAME: TANEY

Instructions: See Instruction Sheet for directions.

1. Sludge Production, including sludge received from others:

15 Actual Dry Tons/Year 600 Actual Population Equivalent

2. Sludge Treatment:

_____Anaerobic Digester
X Storage Tank
_____Lime Stabilization
_____Aerobic Digester
_____Air or Heat Drying
_____Other, Describe, _____
_____Composting

3. Sludge Use or Disposal: Complete the rest of this form only for the sections applicable to your method of sludge and biosolids use or disposal.

X	**All Permitees**	**Complete Section 1**
X	Land Application (LA)	Complete Sections 2 & 3
___	Contract Hauler (CH) > 150 PE	Complete Sections 2 & 4
___	Contract Hauler (CH) < 150 PE	Complete Section 4
___	Hauled to another Treatment Facility (HT)	Complete Section 4
___	Solid Waste Landfill (LF)	Complete Section 4
___	Sludge Disposal Lagoon (SD)	Complete Section 5
___	Incineration (IN)	Complete Section 6
___	Sludge Hauled to Incinerator (IO)	Complete Section 6

4. Certification: I certify under penalty of law that the information contained in this report and attachments are true and correct. This determination has been made under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information used to determine these requirements have been met. I am aware that there are significant penalties for false certification, including the possibility of fine and imprisonment.

Edwin K. Godley
Print Name

Plant operator
Official Title

Edwin K. Godley
Signature

July 2, 2004
Date

417-561-4484
Phone

(RV 7-1-97)

C. POLLUTANT LIMITS

POLLUTANT	AV. SAMPLE CONCENTRATIONN mg/kg DRY WGHT	LOW METAL CONCENTRATION mg/kg DRY WGHT	CEILING CONCENTRATION mg/kg DRY WGHT
Arsenic	<6.7	41	75
Cadimium	<0.67	39	85
Chromium	10.1	1,200	3,000
Copper	353	1,500	4,300
Lead	14.8	300	840
Mercury	<6.7	17	57
Molybdenum	9.40	18	75
Nickel	12.1	420	420
Selenium	<6.7	36	100
Zinc	1010	2,800	7,500

D. PATHOGENS

Pathogen testing is required for all sludges to show operational compliance, including sludges treated by a PSRP approved method.

The geometric mean of the density of fecal coliform is less than 2,000,000 Most Probable Number (MPN) or Colony Forming Units (CFU) per gram of total solids (dry weight basis) for each group of 7 samples:

✓ Yes ___ No Sampling frequency 1 PER YEAR

Geometric mean per gram of total solids for each group of 7 samples was:

2,780,000 MPN/CFU Sample date 12/30/03

___ MPN/CFU Sample date ___

___ MPN/CFU Sample date ___

E. VECTOR REDUCTION PROCESSES

___ 38 percent volatile solids reduction (attach calculations).

✓ SOUR test, mg O_2/hr/g (attach graph and calculations).

___ Other. Attach explanation.

FORM S - SECTION 3 LAND APPLICATION

Permit No: MO-0108162 Report Period: Calendar Year 2003

Facility Name: Rockaway Beach W.W.T.P.

3.00 Land Application - General

This section is based on Missouri Water Pollution Control Permit Standard Conditions Part III dated August 15, 1994. For a copy, contact the department at (314) 751-6825.

Complete this section if sludge or biosolids were land applied for beneficial use by permittee or by contract hauler under permittee authority.

3.01 _____ dry tons of sludge applied during the report period.

1.49 average percent solids

If less than 12% solids: _____ total gallons for year

If 12% solids or greater: _____ cubic yards for year.

3.02 Sludge storage provided: 200,000 gallons cubic feet; _____ days of storage.

Number of days each month that sludge was land applied:

Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
		3	6			3		8	8	6	1

3.03 Who applies your sludge?

Permittee personnel ✓ Yes ___ No

Contract person ___ Yes ___ No

Other, describe: _____

3.10 Applicability (Per Section H of Part III Standard Conditions)

3.11 Are there any land application sites farther than 20 miles from the wastewater treatment facility? ___ Yes ✓ No

If yes, a separate permit is required for those sites; indicate permit numbers or submit new permit application for each site:

Permit numbers: _____

3.12 Are any industrial sludges land applied by the permittee?

___ Yes ✓ No If yes, complete the following: Permit No: _____;

Type of sludge _____ SIC Code _____;

3.13 Are alternate limits or exceptions listed in the Special Conditions section of the permit?

___ Yes ✓ No If yes, attach explanation sheet.

3.14 Is sludge received from any out-of-state generators?

If this sludge is handled separately, complete separate Sections 2 and 3 of form S for the out-of state sludge.

FORM S - SECTION 2 LABORATORY RESULTS

FORM SA

SLUDGE MONITORING RESULTS FOR METALS, NUTRIENTS, PATHOGENS AND VECTORS

Permit No: MO- 0108162

Facility Name: Rockaway Beach W.W.T.P.

Report Period: Calendar Year 2003

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If the Facility has a design population equivalent (P.E.) of 150 or less, treat the sludge generated as septage and consequently, no testing is required. See WQ 422 guide, Land application of Septage, for further guidance.

Report all results on dry weight basis.

Attach copies of all laboratory results for the items below.

A. MINIMUM MONITORING LIST FOR ALL PERMITTEES

PARAMETER	UNITS	AVERAGE	MINIMUM	MAXIMUM	NUMBER OF SAMPLES
Total Solids	%	1.49			9
Total Arsenic	mg/kg	<6.7	41	75	9
Total Cadmium	mg/kg	<0.67	39	85	9
Total Chromium	mg/kg	10.1	1200	3000	9
Total Copper	mg/kg	253	1500	4300	9
Total Lead	mg/kg	14.8	300	840	9
Total Mercury	mg/kg	<6.7	17	57	9
Total Molybdenum -	mg/kg	9.40	18	75	9
Total Nickel	mg/kg	12.1	420	420	9
Total Selenium	mg/kg	<6.7	36	100	9
Total Zinc	mg/kg	1010	2800	7500	9

B. ADDITIONAL MONITORING FOR LAND APPLICATION

Total Kjeldahl Nitrogen	mg/kg				
Total Phosphorus as P	mg/kg				
Total Potassium as K	mg/kg				

If more than 2 dry tons of sludge per acre/year is applied complete following:

Organic nitrogen as N	mg/kg				
Ammonia Nitrogen as N	mg/kg				
Nitrate Nitrogen as N	mg/kg				

FORM SB
SLUDGE MONITORING RESULTS FOR
PRIORITY POLLUTANTS AND OTHER SPECIAL TESTING

Permit No: MO-_____ Report Period: Calendar Year _____

Facility Name: _____

Report all results on dry weight basis.

F. PRIORITY POLLUTANTS

Report only those pollutants that were above detection limits. Do not repeat pollutants listed in section 2A. Attach additional sheets as needed.

PARAMETER	UNITS	AVERAGE	MINIMUM	MAXIMUM	NUMBER OF SAMPLES

G. OTHER SPECIAL MONITORING REQUIRED BY PERMIT

Report results of any additional testing required under the Special Conditions section of your permit.

3.20 Pollutant Limitations

3.21 Are metals within the ceiling concentration limit?

✓ Yes ___ No If no, attach explanation sheet.

3.22 Are metals within the low metals concentrations and the total of all sludge applications to date (including previous years) have not exceeded 500 dry tons/acre?

✓ Yes ___ No Attach list of sites using Form SC.

3.23 If you answered "No" to 3.22, complete the following.

Have metals application rates reached any of the cumulative metals loadings? This is based on contributions from all historical sludge loadings, including industrial sludges.

___ Yes ___ No Attach a list of sites using Form SD.

Soil test results for metals may be used if historical use is not known. Test metals concentration in parts per million (ppm) dry weight for the top six inches of soil and calculate pounds per acre as follows:

ppm (dry wt) in soil x 2 = pounds per acre for 6" soil depth.

3.30 Management Practices

3.31 Nitrogen Limitations

Which of the following nitrogen approaches was used:

Sludge applied up to 2 dry tons/acre/year? ✓ Yes ___ No

Plant Available Nitrogen (PAN) approach? ___ Yes ___ No

_____ number of composite samples. Results for PAN in mg/kg dry weight and pounds per dry ton of sludge (lb/dt) [lb/dt = 0.002 x mg/kg]:

	Average	Minimum	Maximum
PAN	_____mg/kg	_____mg/kg	_____mg/kg
PAN	_____lb/dT	_____lb/dT	_____lb/dT

3.32 Have sludge applications complied with the following management practices as listed in the University of Missouri WQ 426 guide, Best Management Practices for Biosolids Land Application?

1. No discharge of biosolids from application site	✓ Yes	___ No
2. Public contact sites restriction	✓ Yes	___ No
3. Crop restrictions	✓ Yes	___ No
4. Harvest and grazing restictions	✓ Yes	___ No
5. Threatened or endangered species protection	✓ Yes	___ No
6. Nitrogen limitations	✓ Yes	___ No
7. Buffer zones	✓ Yes	___ No
8. Slope limitations for application sites	✓ Yes	___ No
9. Storm water runoff	✓ Yes	___ No
10. Frozen, snow-covered or saturated soil conditions	✓ Yes	___ No

11. Biosolids storage — ✓ Yes ___ No
12. Application rates — ✓ Yes ___ No
13. Application equipment — ✓ Yes ___ No
14. Soil pH limitations — ✓ Yes ___ No
15. Soil phosphorus limitations — ✓ Yes ___ No
16. Soil depth limitations — ✓ Yes ___ No
17.. Record keeping — ✓ Yes ___ No

If No, attach sheet with explanation.

3.33 Class A Sludge (Per WQ 424 guide - Biosolids Standards for pathogens and vectors)

Does the sludge meet Class A pathogen reduction? ___ Yes ✓ No

Has Class A sludge been applied to public use sites? ___ Yes ✓ No

If yes to the second question in 3.33, contact DNR.

3.40 Operational Standards for Class B Biosolids (see WQ 424)

___ Class B pathogen reduction requirements were met by either fecal coliform limits under section 2D or a PSRP listed in WQ 424, Table 2. Attach supporting data and indicate process option used.

___ Class B pathogen requirements not currently met; Attach explanation and schedule of compliance.

3.41 Vector Attraction reduction requirements were met. ✓ Yes ___ No

3.50 Monitoring Frequency (Per WQ 424 - Monitoring Requirements for Biosolids Land Application)

Attach a summary of the monitoring results on Form SA

3.51 Sludge testing for metals was performed:

✓ once/year ___ once/6 months
___ once/quarter ___ once/month
___ once/week ___ once/100 dry tons removed from lagoon.
___ Other, specify _____

3.52 Permittee is required to have an approved pretreatment program.

___ Yes ✓ No If yes attach Form SB.

3.53 Total Solids testing was performed at least once per day during land application periods?

✓ Yes ___ No If No, attach explanation.

3.54 Nitrogen testing was performed per the frequency in WQ 423. This frequency is 1 per year.

✓ Yes ___ No If No, attach explanation.

3.55 Total phosphorus and total potassium were tested at the same frequency required for metals as indicated in WQ 423.

✓ Yes ___ No If No, attach explanation.

3.56 Soil testing for pH and Cation Exchange Capacity (CEC) and available phosphorus has been conducted within the last five years.

✓ Yes ___ No If No, attach explanation.

3.57 Was any additional sludge or soil testing required under the special conditions section of your water pollution control (NPDES) permit?

___ Yes ✓ No If yes, attach a summary using Form SB.

Permit No: MD-108162 Report Period: Calendar Year 2003

Facility Name: Rockawalking Beach WWTP

3.60 CERTIFICATION FOR LAND APPLICATION

Check all that apply.

I certify under penalty of law that:

✓ records on testing, and pollutant loadings, as listed above in Section 2, have been kept in accordance with 40 CFR 503.17.

✓ the management practices, as listed above in Section 2, have been met in accordance with 40 CFR 503.14.

✓ the Class B pathogen requirements and the site restrictions, as listed above in Section 2, have been met in accordance with 40 CFR 503.15 and 503.32.

✓ one of the vector attraction requirements, as listed above in Section 2, have been met in accordance with 40 CFR 503.15 and 503.33.

This determination has been made under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information used to determine these requirements have been met. I am aware that there are significant penalties for false certification, including the possibility of fine and imprisonment.

Edwin K. Godfrey
Name

PLANT OPERATOR
Official Title

Edwin K. Godfrey
Signature

July 2, 2004
Date

MISSOURI DEPARTMENT OF NATURAL RESOURCES - WATER POLLUTION CONTROL PROGRAM

FORM SC
LAND APPLICATION OF BIOSOLIDS WITH LOW METALS CONCENTRATIONS

Use this form for application sites which have received biosolids with low metals concentrations per Section 3.22 of Form S. Enter the site number for each field based on the site maps on file at the facility. Report biosolids application rate in dry tons per acre per year (dt/ac/yr). Attach additional copies of this sheet as needed.

Permit No: MO-__________ Report Period: Calendar Year __________

Facility Name: ______________________________

Site No. ______ Owners Name: ______________________________

Legal: ____1/4, ____1/4, Sec____, T_____, R_____, County______________

Biosolids: ____dt/ac/yr ______Acres Nitrogen: ______ lbs/ac/yr (TKN or PAN)

Crops grown: ______________________________ Soil pH ____________

Site No. ______ Owners Name: ______________________________

Legal: ____1/4, ____1/4, Sec____, T_____, R_____, County______________

Biosolids: ____dt/ac/yr ______Acres Nitrogen: ______ lbs/ac/yr (TKN or PAN)

Crops grown: ______________________________ Soil pH ____________

Site No. ______ Owners Name: ______________________________

Legal: ____1/4, ____1/4, Sec____, T_____, R_____, County______________

Biosolids: ____dt/ac/yr ______Acres Nitrogen: ______ lbs/ac/yr (TKN or PAN)

Crops grown: ______________________________ Soil pH ____________

Site No. ______ Owners Name: ______________________________

Legal: ____1/4, ____1/4, Sec____, T_____, R_____, County______________

Biosolids: ____dt/ac/yr ______Acres Nitrogen: ______ lbs/ac/yr (TKN or PAN)

Crops grown: ______________________________ Soil pH ____________

Site No. ______ Owners Name: ______________________________

Legal: ____1/4, ____1/4, Sec____, T_____, R_____, County______________

Biosolids: ____dt/ac/yr ______Acres Nitrogen: ______ lbs/ac/yr (TKN or PAN)

Crops grown: ______________________________ Soil pH ____________

Site No. ______ Owners Name: ______________________________

Legal: ____1/4, ____1/4, Sec____, T_____, R_____, County______________

Biosolids: ____dt/ac/yr ______Acres Nitrogen: ______ lbs/ac/yr (TKN or PAN)

Crops grown: ______________________________ Soil pH ____________

CaSi
CONSULTING ANALYTICAL SERVICES INTERNATIONAL
2804 EAST BATTLEFIELD, SPRINGFIELD, MISSOURI 65804, 417-882-1017, ~~1018~~

CITY OF ROCKAWAY BEACH
CaSi File/Case/Log: 0289/033606-3615/1592.
Samples Received 12-30-03; 13:40.

Values expressed in milligrams per liter, unless otherwise specified.

CONTROL NUMBER		033614	033615	
SAMPLE DESCRIPTION		EFFLUENT 12-30-03 11:00	INFLUENT 12-30-03 10:45	ANALYSIS DATE/TIME
PARAMETER	METHOD			
TOTAL PHOSPHORUS as P	365.2 ❖✚	1.93	7.12	01-05-04 19:15

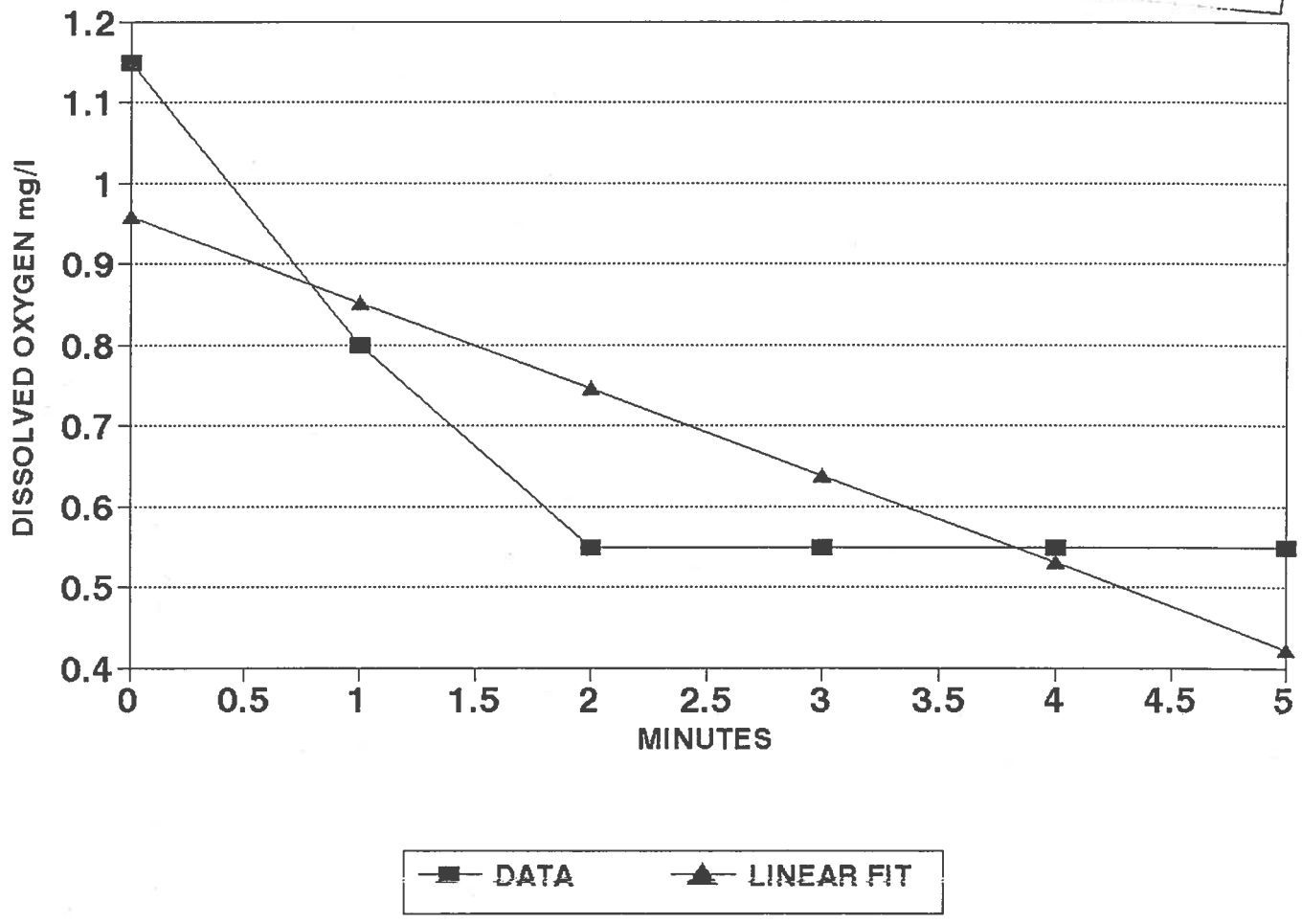
❖ EPA Methods for Chemical Analysis of Water and Wastes, 1983, Cincinnati, Ohio.
✚ Spectrophotometric.

CaSi
CONSULTING ANALYTICAL SERVICES INTERNATIONAL
2804 EAST BATTLEFIELD, SPRINGFIELD, MISSOURI 65804, 417-882-1017, 1018

CITY OF ROCKAWAY BEACH, MISSOURI
Re: CaSi File/Case/Log: 0289/033606/1592.
Sludge Sample Collected 12-29-30-03; 13:15-10:00. Received 12-30-03; 13:40.

SOUR TEST

CITY OF ROCKAWAY BEACH 0289/033606/1592



SPECIFIC OXYGEN CONSUMPTION RATE: **< 1.0 mg/g/hour**

CaSi CONSULTING ANALYTICAL SERVICES INTERNATIONAL
2804 EAST BATTLEFIELD, SPRINGFIELD, MISSOURI 65804, 417-882-1017, 1018

CITY OF ROCKAWAY BEACH, MISSOURI
January 26, 2004
Re: CaSi File/Case/Log: 0289/033606-3615/1592.

Sludge Sample Collected 12-29-30-03; 13:15-10:00.
Received 12-30-03; 13:40.

PARAMETER	WET WEIGHT VALUE mg/kg	DRY WEIGHT VALUE mg/kg	DRY WEIGHT VALUE lbs/ton
ARSENIC, total	<0.1	<6.7	<0.01
CADMIUM, total	<0.01	<0.67	<0.001
CHROMIUM, total	0.15	10.1	0.02
COPPER, total	3.77	253	0.51
LEAD, total	0.22	14.8	0.03
MERCURY, total	<0.1	<6.7	<0.01
MOLYBDENUM, total	0 14	9.40	0.02
NICKEL, total	0.18	12.1	0.02
SELENIUM, total	<0.1	<6.7	<0.01
ZINC, total	15.1	1010	2.03
TOTAL KJELDAHL NITROGEN	915	61400	123
AMMONIA AS NITROGEN	16.1	1080	2.16
ORGANIC NITROGEN	899	60300	121
NITRATE/NITRITE AS NITROGEN	2.32	156	0.31
TOTAL PHOSPHORUS AS P	372	25000	50
TOTAL POTASSIUM	142	9530	19
PLANT AVAILABLE NITROGEN	193	13000	26
FECAL COLIFORM Geometric Mean of 7 Samples	41,400	2,780,000	UNITS CFU/g
PERCENT SOLIDS	1.49 %		
VOLATILE PERCENT OF SOLIDS	81.88 %		
PERCENT ASH	0.27 %		

✣ US EPA Test Methods for Evaluating Solid Waste, SW-846, Third Edition 1986, and the Latest Promulgated Update.

Custom Laboratory, Inc.

P.O. Box 391 Telephone: (417) 537-8337 Golden City, Missouri 64748 204 C Street

Analysis of;
Water
Feeds
Soil
Forage

SAMPLE DATE-NO 11/04/02-48 SAMPLE I.D. SOIL

NAME ..... DWIGHT BROCKMAN NAME ..... TANEY CO SWCD
ADDRESS ... TANEYVILLE MO ADDRESS .... FORSYTH MO

SOIL TEST	RESULTS	RATING: VERY LOW : LOW : MEDIUM : HIGH : VERY HIGH : EXCESS
CALCIUM	1600 LBS/ACRE	**********
MAGNESIUM	90 LBS/ACRE	******
POTASSIUM	197 LBS/ACRE	**********
PHOSPHORUS (BRAY I)	16 LBS/ACRE	**********
pH	6.01	**********
SOIL TEXTURE	SANDY LOAM	
ORGANIC MATTER	2.05 %	
NEUTRALIZABLE ACIDITY N.A.	1.8 meq/100g	
CATION EXCHANGE CAPACITY C.E.C.	6.4 meq/100g	
CALCIUM BASE SATURATION	62.7 %	
MAGNESIUM BASE SATURATION	5.9 %	
POTASSIUM BASE SATURATION	3.2 %	

CUSTOM SOIL RECOMMENDATIONS

CROPPING OPTIONS:		Yield Goal	Suggested Annual Treatments lbs/a N	lbs/a P2O5	lbs/a K2O	Corrective Treatment lbs/a E.N.M.	lbs/a Mg
COOL SEASON GRASS	ESTABLISHMENT	0/ 0	30	64	12	0	80
OVERSEED LEGUMES INTO GRASS		0/ 0	0	64	12	393	38
CLOVER/GRASS	ESTABLISHMENT	0/ 0	20	64	12	393	38
WARM SEASON GRASS	ESTABLISHMENT	0/ 0	0	41	12	0	80

Under high management, use soluble source of Magnesium at a rate of 30 to 40 lbs/ac

This report applies to sample(s) Tested. Samples are retained a Maximum of thirty days after testing.

Custom Laboratory

By _____

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER POLLUTION CONTROL PROGRAM

FORM S - DOMESTIC SLUDGE REPORTING

SECTION 1 - GENERAL INFORMATION

RECEIVED
MAY 11 2005
SOUTHWEST REGIONAL OFFICE

REPORTING PERIOD: (YEAR) 2004

FACILITY NAME: Rockaway Beach W.W.T.P.

PERMIT NUMBER: MO-0103162

CITY NAME: City of Rockaway

COUNTY NAME: Taney

Instructions: See Instruction Sheet for directions.

1. Sludge Production, including sludge received from others:

19 Actual Dry Tons/Year 600 Actual Population Equivalent

2. Sludge Treatment:

_____Anaerobic Digester
X Storage Tank
_____Lime Stabilization
_____Aerobic Digester
_____Air or Heat Drying
_____Other, Describe.
_____Composting

3. Sludge Use or Disposal: Complete the rest of this form only for the sections applicable to your method of sludge and biosolids use or disposal.

X	**All Permitees**	**Complete Section 1**
X	Land Application (LA)	Complete Sections 2 & 3
___	Contract Hauler (CH) > 150 PE	Complete Sections 2 & 4
___	Contract Hauler (CH) < 150 PE	Complete Section 4
___	Hauled to another Treatment Facility (HT)	Complete Section 4
___	Solid Waste Landfill (LF)	Complete Section 4
___	Sludge Disposal Lagoon (SD)	Complete Section 5
___	Incineration (IN)	Complete Section 6
___	Sludge Hauled to Incinerator (IO)	Complete Section 6

Taney

No Place Entered To Enter

4. Certification: I certify under penalty of law that the information contained in this report and attachments are true and correct. This determination has been made under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information used to determine these requirements have been met. I am aware that there are significant penalties for false certification, including the possibility of fine and imprisonment.

Edwin K. Godley
Print Name

Plant operator
Official Title

Edwin K. Godley
Signature

Apr. 27, 2005
Date

417-561-4424
Phone

(RV 7-1-97)

C. POLLUTANT LIMITS

POLLUTANT	AV. SAMPLE CONCENTRATIONN mg/kg DRY WGHT	LOW METAL CONCENTRATION mg/kg DRY WGHT	CEILING CONCENTRATION mg/kg DRY WGHT
Arsenic	<4.7	41	75
Cadimium	<0.5	39	85
Chromium	6.10	1,200	3,000
Copper	150	1,500	4,300
Lead	8.45	300	840
Mercury	<4.7	17	57
Molybdenum	4.69	18	75
Nickel	7.51	420	420
Selenium	<4.7	36	100
Zinc	944	2,800	7,500

D. PATHOGENS

Pathogen testing is required for all sludges to show operational compliance, including sludges treated by a PSRP approved method.

The geometric mean of the density of fecal coliform is less than 2,000,000 Most Probable Number (MPN) or Colony Forming Units (CFU) per gram of total solids (dry weight basis) for each group of 7 samples:

✓ Yes ___ No Sampling frequency 1 per year

Geometric mean per gram of total solids for each group of 7 samples was:

406000 MPN/CFU Sample date 12/07/04

___ MPN/CFU Sample date ___

___ MPN/CFU Sample date ___

E. VECTOR REDUCTION PROCESSES

___ 38 percent volatile solids reduction (attach calculations).

✓ SOUR test, mg O_2/hr/g (attach graph and calculations).

___ Other. Attach explanation.

RECEIVED
MAY 11 2005
SOUTHWEST REGIONAL OFFICE

FORM S - SECTION 2 LABORATORY RESULTS

FORM SA

SLUDGE MONITORING RESULTS FOR METALS, NUTRIENTS, PATHOGENS AND VECTORS

Permit No: MO- 0108162 Report Period: Calendar Year 2004

Facility Name: Rockaway Beach W.W.T.P.

Use this form to report sludge monitoring required under Missouri water pollution control permit (NPDES) Standard Conditions Part III dated 15, August, 1994. For a copy, contact the department at (314) 751-6825.

If the Facility has a design population equivalent (P.E.) of 150 or less, treat the sludge generated as septage and consequently, no testing is required. See WQ 422 guide, *Land application of Septage*, for further guidance.

Report all results on dry weight basis.

Attach copies of all laboratory results for the items below.

A. MINIMUM MONITORING LIST FOR ALL PERMITTEES

PARAMETER	UNITS	AVERAGE	MINIMUM	MAXIMUM	NUMBER OF SAMPLES
Total Solids	%	9.13			8
Total Arsenic	mg/kg	<4.7	41	75	8
Total Cadmium	mg/kg	<0.5	39	85	8
Total Chromium	mg/kg	6.10	1200	3000	8
Total Copper	mg/kg	150	1500	4300	8
Total Lead	mg/kg	8.45	300	840	8
Total Mercury	mg/kg	<4.7	17	57	8
Total Molybdenum	mg/kg	4.69	18	75	8
Total Nickel	mg/kg	7.51	420	420	8
Total Selenium	mg/kg	<4.7	86	100	8
Total Zinc	mg/kg	944	2800	7500	8

B. ADDITIONAL MONITORING FOR LAND APPLICATION

Total Kjeldahl Nitrogen	mg/kg				
Total Phosphorus as P	mg/kg				
Total Potassium as K	mg/kg				

If more than 2 dry tons of sludge per acre/year is applied complete following:

Organic nitrogen as N	mg/kg				
Ammonia Nitrogen as N	mg/kg				
Nitrate Nitrogen as N	mg/kg				

3.20 Pollutant Limitations

3.21 Are metals within the ceiling concentration limit?

✓ Yes ___ No If no, attach explanation sheet.

3.22 Are metals within the low metals concentrations and the total of all sludge applications to date (including previous years) have not exceeded 500 dry tons/acre?

✓ Yes ___ No Attach list of sites using Form SC.

3.23 If you answered "No" to 3.22, complete the following.

Have metals application rates reached any of the cumulative metals loadings? This is based on contributions from all historical sludge loadings, including industrial sludges.

___ Yes ___ No Attach a list of sites using Form SD.

Soil test results for metals may be used if historical use is not known. Test metals concentration in parts per million (ppm) dry weight for the top six inches of soil and calculate pounds per acre as follows:

ppm (dry wt) in soil x 2 = pounds per acre for 6" soil depth.

3.30 Management Practices

3.31 Nitrogen Limitations

Which of the following nitrogen approaches was used:

Sludge applied up to 2 dry tons/acre/year? ✓ Yes ___ No

Plant Available Nitrogen (PAN) approach? ___ Yes ___ No

_____ number of composite samples. Results for PAN in mg/kg dry weight and pounds per dry ton of sludge (lb/dt) [lb/dt = 0.002 x mg/kg]:

	Average	Minimum	Maximum
PAN	_____mg/kg	_____mg/kg	_____mg/kg
PAN	_____lb/dT	_____lb/dT	_____lb/dT

3.32 Have sludge applications complied with the following management practices as listed in the University of Missouri WQ 426 guide, Best Management Practices for Biosolids Land Application?

1. No discharge of biosolids from application site	✓ Yes	___ No
2. Public contact sites restriction	✓ Yes	___ No
3. Crop restrictions	✓ Yes	___ No
4. Harvest and grazing restictions	✓ Yes	___ No
5. Threatened or endangered species protection	✓ Yes	___ No
6. Nitrogen limitations	✓ Yes	___ No
7. Buffer zones	✓ Yes	___ No
8. Slope limitations for application sites	✓ Yes	___ No
9. Storm water runoff	✓ Yes	___ No
10. Frozen, snow-covered or saturated soil conditions	✓ Yes	___ No